

Frequently Asked Questions Programs of Study

The following *frequently asked questions* provide responses to basic questions related to the program of study requirement contained in the state of Illinois's Race to the Top (RttT) agreement. It is intended to provide information for the Illinois school districts that are participating in RttT, related to the program of study activities. Individuals interested in more information are encouraged to [contact us](http://pathways.illinois.edu/?page_id=73) (http://pathways.illinois.edu/?page_id=73) for additional information.

Q. What is a program of study?

A. Programs of study are sequences of courses that incorporate a non-duplicative progression of secondary and postsecondary elements, which include academic and career and technical education content. Programs of study should start no later than the ninth grade and continue through at least two years of postsecondary education. Programs of study include opportunities to earn college credit (dual credit) in high school and lead to an industry-recognized credential or certificate at the secondary/postsecondary level, and/or an associate or baccalaureate degree. Information on programs of study is available on the [Illinois Community College Board \(ICCB\)](http://iccbdsrv.iccb.org/programsofstudy/home.html) (<http://iccbdsrv.iccb.org/programsofstudy/home.html>) website.

Q. What are the Illinois Career Clusters?

A. The state of Illinois has adopted a career cluster model that is patterned after the National Career Clusters™ Framework; information on the national framework can be accessed through the website of the [National Association of State Directors of Career Technical Education Consortium](http://www.careertech.org/career-clusters/glance/at-a-glance.html) (<http://www.careertech.org/career-clusters/glance/at-a-glance.html>). There are 16 career clusters and 79 career pathways. The ICCB website describes the [Career Cluster Model](http://iccbdsrv.iccb.org/programsofstudy/clusterframework.html) (<http://iccbdsrv.iccb.org/programsofstudy/clusterframework.html>) including key concepts and definitions, guiding principles and the design elements.

The Illinois RttT application identified nine areas as STEM Cluster Areas of focus for the RttT project. A side-by-side comparison of the Illinois Career Cluster Model and the RttT STEM Cluster areas is provided in the chart below. Note that the Illinois Career Cluster Model primarily terms the Research and Development RttT area of focus as *Science*, *Technology*, *Engineering* and *Mathematics*, but it may relate to other cluster areas as well. Also note that the RttT area of focus, *Energy*, is not defined as an Illinois Career Cluster; instead *Energy* encompasses several of the career cluster areas.

Comparison of Illinois Career Cluster Model and RttT STEM Cluster Areas

Illinois Career Clusters	RttT STEM Cluster Areas
Agriculture, Food & Natural Resources	Agriculture, Food & Natural Resources
Architecture & Construction	Architecture & Construction
Finance	Finance
Health Science	Health Science
Information Technology	Information Technology
Manufacturing	Manufacturing
Science, Technology, Engineering & Mathematics	Research and Development
Transportation, Distribution & Logistics	Transportation, Distribution & Logistics
	Energy
Arts, Audio/Video Technology & Communications	
Business Management & Administration	
Education & Training	
Government and Public Administration	
Hospitality & Tourism	
Human Services	
Law, Public Safety, Corrections & Security	

Q. What are the STEM Learning Exchanges, and what are their responsibilities?

A. Through RttT funding, STEM Learning Exchanges have been established in eight of the nine RttT STEM Cluster Areas: *Agriculture, Food and Natural Resources; Energy; Finance; Health Science; Information Technology; Manufacturing; Research and Development; and Transportation, Distribution and Logistics*. The STEM Learning Exchanges are receiving funding to support the RttT high schools and districts as they develop, revise, and refine their Programs of Study. They have the following nine functions:

1. Provide e-learning curriculum resources, including on-line courses, assessments and feedback systems, reference materials, databases, and software tools.
2. Expand access to classroom and laboratory space, equipment, and related educational resources necessary to support programs of study through regional partnerships and other strategies.
3. Support student organizations and their major activities, including conferences, internships and professional networking experiences, competitions, and community projects that build leadership, communication and interpersonal skills and provide professional and peer support networks.
4. Provide internships and other work-based learning opportunities that connect students with adult mentors.
5. Sponsor challenges and project management resources for students to work in collaborative teams addressing real-world interdisciplinary problems.
6. Provide professional development resources for teachers and school administrators integrated and aligned across middle school, high school, and community college instruction, including STEM externships, support for web-based networks, and integrated professional development for academic and CTE instructors.

7. Provide career development and outreach resources to expand awareness of STEM-related programs and careers to K-12 students.
8. Provide tools and resources to assist students and schools with implementing personalized education plans and transitions to post-secondary academic and training programs, including establishing course articulation and dual credit opportunities.
9. Review performance of STEM programs of study through assessments and work with school partners to continuously improve performance.

Additional information on the STEM Learning Exchanges is located on the [Illinois Pathways \(http://www.illinoisworknet.com/vos_portal/Stem/en/Home/\)](http://www.illinoisworknet.com/vos_portal/Stem/en/Home/) website.

Q. What are the program of study requirements for the RttT school districts?

- A. RttT districts with high schools are required to develop two programs of study. Districts may select one RttT STEM cluster area and develop their two programs of study within that area, or they may choose two RttT STEM cluster areas and develop one program of study within each of these clusters. STEM Learning Exchanges are being funded in eight of the nine RTTT career cluster areas (*Architecture and Construction* is the exception). Although a school district may elect to develop a program of study within the *Architecture and Construction* cluster area, school personnel unfortunately will not have STEM Learning Exchange support in this cluster. Therefore, it is recommended that the school districts select programs of study that can receive resource support from a STEM Learning Exchange.

The STEM Learning Exchanges applied for either *implementation* or *planning* funding. The STEM Learning Exchanges receiving *implementation* grants were *Agriculture, Food and Natural Resources; Health Science; Information Technology; and Manufacturing, Research and Development, and Energy; Finance; Transportation, Distribution and Logistics* received *planning* grants. The STEM Learning Exchanges with *implementation* grants may have more resource supports that can be immediately available to schools, as the *planning* STEM Learning Exchanges are in the process of formation. School officials are encouraged to contact the individuals in charge of the STEM Learning Exchanges in their identified career cluster areas, to consult with them and to learn about resource supports that are already developed and those that are in process. More information on the STEM Learning Exchanges including contact information is located on the [Illinois Pathways \(http://www.illinoisworknet.com/vos_portal/Stem/en/Home/\)](http://www.illinoisworknet.com/vos_portal/Stem/en/Home/) website.

Q. Can the school district choose two programs of study in one career cluster area to meet RttT expectations and requirements?

- A. Districts can select only one cluster area, develop their two programs of study within that area, and satisfy the minimum RttT requirement. However, in order to maximize their RttT experiences, districts are encouraged to select programs of study in at least two RttT STEM cluster areas and to fully engage with the respective STEM Learning Exchanges, as well as their postsecondary and business/industry partners, throughout this process. Partners may be engaged in various ways, such as through formal cluster- or pathway-specific advisory councils or similar groups.

Q. Are there additional recommendations/suggestions for the districts with high schools who wish to go beyond the minimum program of study requirements?

- A. District personnel are encouraged to identify programs of study that are in need of additional development/refinement, rather than selecting programs of study that they feel are already extensively developed. Certainly, the district can select an established program of study and then work to make it more rigorous and to improve the quality. Districts are not restricted to only two programs of study: They may elect to develop as many programs of study as they determine are necessary for their students within their identified career cluster areas. Indeed, as school districts engage in this process and collaborate with their postsecondary partners, they may find the development of additional programs of study is a natural extension of this collaborative process. Districts are encouraged to fully develop numerous programs of study in several clusters over time, with identification of programs of study depending upon district or geographical needs, so that every student in the district would follow at least one program of study.

Additionally, in a robust program of study, districts are encouraged to work with the STEM Learning Exchanges to implement complementary components of the program of study, such as cluster- or pathway-specific advisory councils, program of study-related student organizations, additional career resources, personalized education plans, and work-based learning opportunities encompassing such activities as internships, job shadowing, collaborative interdisciplinary real-world team challenges or project work with mentors.

Q. *What is required of districts that already have fairly well developed programs of study?*

- A. Ideally, each district will identify programs of study that they agree are in need of development or further enhancement, although this is not a RttT mandate. However, even if a district does choose to select programs of study that they believe are already well developed, their RttT obligation has not been satisfied at this point. The district is expected to fully engage in the process of reviewing the Program of Study—connecting with the STEM Learning Exchanges, Employment for Education (EFE) Director, postsecondary, and business/industry partners, and making appropriate changes to the curriculum and work experiences for students that are identified throughout this process. Arguably, even well developed programs of study can be improved when school officials fully commit to an improvement process.

Q. *Is there a list of grants or other money sources that we can reference?*

- A. The Pathways Resource Center is collaborating with the I-STEM Education Initiative at the University of Illinois at Urbana-Champaign in accessing potential funding sources for school districts and the STEM Learning Exchanges. Funding opportunities regularly are updated on the I-STEM (<http://www.istem.illinois.edu/funding/upcomingdeadlines.html>) website. In addition, the Pathways Resource Center will send out occasional updates to STEM Learning Exchanges and school district personnel to provide notification of upcoming grant opportunities.

Q. *Are there example pathways (for any Programs of Study) already created that can give us ideas/options of specific courses to offer?*

- A. Your postsecondary partners will be an excellent resource in identifying programs of study that will link to specific secondary programs. In fact, they may have already aligned with other local high schools. In addition, the STEM Learning Exchanges will be making curriculum resources available to you and likely will have suggestions for courses that could be offered within your program of study.

An additional resource that can assist you in beginning to match up courses at the secondary and postsecondary level in specific pathways related to the STEM Learning Exchanges is the [Illinois Pathways](http://www.illinoisworknet.com/vos_portal/STEM/en/Home/) (http://www.illinoisworknet.com/vos_portal/STEM/en/Home/) website. Here you can find the state-approved courses at each educational level in each of the current pathways related to the STEM Learning Exchanges. These do not include the academic courses required for graduation at the local level that also would be part of the programs of study template for your district. This site also includes related career information for each of these pathways.

Some Illinois community colleges may have programs of study templates posted on their websites, which you may find to be helpful as you review your curriculum. As an example, [Southwestern Illinois College](http://www.swic.edu/postemplates/) (<http://www.swic.edu/postemplates/>) has posted several templates across many career cluster areas.

Q. *What possible additional certification might be needed for staff?*

A. It depends on your programs of study. If you reach an agreement with a local community college or college/university to offer dual-credit courses within your school that are taught by your high school teachers, these teachers must be approved by your postsecondary partner, meeting the academic qualifications that they have established for faculty to serve as adjunct instructors for their institutions. If you choose to offer an industry credential with the program of study, your high school teachers may be required to engage in training in order to meet certification standards. It is recommended that you consult with your STEM Learning Exchange partners, because they most likely will have information about requirements for industry credentials within your identified cluster area.

Q. *What are the best sources for reliable available jobs and projected jobs data?*

A. The Illinois Pathways website, which is maintained by the Illinois Department of Commerce and Economic Opportunity, has numerous resources that will be of assistance as you explore Labor Market Information within your programs of study. Included on this website is a webinar, “Using Labor Market Information to Analyze Program of Study and Career Clusters,” (http://www.illinoisworknet.com/vos_portal/Stem/en/ILPathways/Agriculture/SupplyandDemand) as well as links to various labor market information reports (http://www.illinoisworknet.com/vos_portal/Stem/en/ILPathways/Agriculture/SupplyandDemand). Depending on your cluster area, you may find that the Department of Labor does not fully capture the employment opportunities within all career areas. Thus, you will want to explore additional resources for employment projections. The STEM Learning Exchanges also can assist you in finding information related to employment projections within their cluster areas.

Do not limit your analysis only to the projected employment needs within your local area and region: Many of your students will not remain close from home when they graduate from high school and/or will decide not to return home after completing their postsecondary training. Thus, it also is important for you to consider employment projections beyond your region, to the state, nation, and even globally.

Q. *Can you provide some models of Associate’s degrees that both prepare students for work and for transfer to a four-year institution? How did the community college*

achieve this alignment/articulation?

- A. Perhaps the best resource, at least initially, is your local community college, who you should engage as one of your partners as you work on your programs of study. The Illinois Community College Board (ICCB) maintains an online Directory of Programs (<http://iccbdsrv.iccb.org/dop/home.cfm>), which allows you to search the ICCB statewide database of instructional programs offered by the state of Illinois' 48 community colleges. By accessing this database, you can immediately identify which community colleges offer your program of interest. You then can follow up by contacting the appropriate personnel within each community college to obtain information on their programs.
- Q. *What is the best way to go about evaluating our readiness in terms of staffing, curriculum, resources, materials, and partnerships?***
- A. The school districts completed self-assessments in January 2013; information from your self-assessments in the (one or) two cluster areas can serve as a starting part, to guide your initial conversations about your programs of study. You also might find the Illinois Program of Study Expectations Tool (<http://iccbdsrv.iccb.org/programsofstudy/docs/illinois%20Programs%20of%20Study%20Expectations%20Tool%20march%202011.pdf>) to be a helpful tool, as you school and partners begin to work on your programs of study.
- Q. *How do we assist students and parents in choosing an appropriate program of study?***
- A. If your district is using some form of interactive career guides, such as Career Cruising, you can use these tools to help students explore potential careers, identify career cluster areas of interest, and ultimately select programs of study. In addition, the Illinois Student Assistance Commission (ISAC) has developed a web-based resource called *What's Next Illinois* (www.whatsnextillinois.org/) that provides an array of career resources for students, to assist them with career exploration and planning, job-seeking skills development, high school course planning, college planning, and financial aid planning.
- Q. *How can we ensure that our programs of study are flexible for students and parents?***
- A. Students should be encouraged to complete a rigorous curriculum that adequately prepares them for college and careers, but the program of study should not be so rigid that students have no opportunities for exploration, enrichment, or enjoyment. Using the curriculum template for the program of study, the school district will establish minimum courses and work experience expectations for the program of study but will want to provide some flexibility within the program of study so that students can take elective courses that permit them to explore other potential areas of interest or enroll in elective courses that they simply enjoy taking. Additionally, the curriculum template may also provide recommended courses that inspire students to exceed the minimum requirements for the program of study. For example, the school district may develop an advanced diploma, endorsement, or certificate for college preparatory and/or career and technical skills encourages students to enroll in honors, Advanced Placement, International Baccalaureate, articulated, capstone, and/or dual credit courses.
- Q. *Are there components of our current curriculum that already align to a career cluster(s)?***
- A. Possibly, as you work through the process of developing your programs of study, the answer to this question will readily become apparent. The academic classes—especially at

the secondary level—may be similar in each program of study, with some pathways potentially suggesting more courses as it relates to a particular program of study and as they are necessary without losing the content-specific courses of the program of study. Content-specific (Career and Technical Education) courses will relate to the cluster/pathway chosen.

Q. *What is the minimum we can do to align our curriculum to “fit” with a program of study?*

- A. The answer to this question depends on the courses that your school district already has in place, and the curriculum decisions that you make as you work with your postsecondary, business/industry partners, Education for Employment (EFE) regional delivery system directors, and STEM Learning Exchange(s). The EFE directory can be downloaded from the Illinois State Board of Education (ISBE) (<http://www.isbe.state.il.us/career/>) website.

Rather than considering the minimum amount of effort that would be required to satisfy RttT expectations, it is most appropriate to collaboratively determine what curriculum revisions are needed to develop a fully aligned P-14 curriculum within the program of study, that effectively prepares students for college and career success.

Q. *How flexible are the curriculum options on the Illinois Pathways website? Will we be required to offer those specific courses?*

- A. Working in collaboration with your postsecondary partners and Employment for Education (EFE) Directors, the school districts and high schools have flexibility to develop your own curriculum, provided that it is an aligned P-14 curriculum that satisfies the requirements for each identified program of study. Although specific courses are not required, districts are encouraged to offer courses within the program of study that are aligned to the state-approved courses that qualify for CTE funding. School district personnel should work closely with their regional EFE Director, who will use the “[CTE Course Alignment tool](http://www.isbe.state.il.us/ISCS/html/course_alignment.htm)” (http://www.isbe.state.il.us/ISCS/html/course_alignment.htm).

For those developing Programs of Study in *Agriculture, Food, and National Resources*, another good contact for developing curriculum and aligning courses would be the [Facilitating Coordination in Agricultural Education \(FCAE\) Program Advisors](http://www.agriculturaleducation.org/ContentFiles/1212201180826AM.pdf) (<http://www.agriculturaleducation.org/ContentFiles/1212201180826AM.pdf>).

Q. *What is the Pathways Resource Center’s (PRC) role in supporting the school districts? Can they help us establish/coordinate partnerships to work specifically with our programs of study (projects, internships, dual-credit courses, etc...)?*

- A. The PRC serves as a resource to the school districts and STEM Learning Exchange to facilitate programs of study develop/revision. Through webinars and regional workshops, PRC personnel can provide information to all high schools as they work on their programs of study. It is our intent to provide these opportunities as the districts engage in their programs of study activities and begin to identify areas in which additional assistance is needed. We encourage school districts to provide PRC (http://pathways.illinois.edu/?page_id=73) feedback on their needs as programs of study are developed. Also, the PRC has some limited funding to provide coaching and technical assistance to high schools on an as-needed basis; this support may include on-site coaching, telephone consultation, and/or webinars, based upon the unique needs of each school.

The STEM Learning Exchanges should be helpful to the schools as they begin to identify projects and internship experiences within the programs of study, since the STEM Learning Exchanges will be developing resources within the identified STEM career cluster areas. Schools are encouraged to develop articulated and/or dual-credit course opportunities within the program of study, which you will do with your postsecondary partners.

Q. *What is the affordability for students in offering a separate certification with a diploma?*

A. School districts may decide to offer industry-based credentials as part of their program of study, with students either obtaining these credentials through high school and dual-credit coursework and work-based experiences or through a carefully articulated P-14 program of study with completion at the postsecondary level. If the high school and community colleges work closely together to achieve this alignment, students potentially may experience significant cost savings, through not having to complete duplicate courses and can more rapidly enter the workforce or further their education in their chosen careers.

Q. *Will the school district have to change our high school graduation requirements?*

A. Revisions to your high school's graduation requirements are not required through RttT. However, as you engage in the process of examining your curriculum, you may decide to implement additional course requirements related to the two programs of study that you are creating. Ultimately, if your faculty and local school board choose to change your high school graduation requirements, you may do so. Your high school graduation requirements must satisfy the minimum graduation requirements enacted by the State of Illinois, but your school board can elect to establish requirements for all students that exceed these requirements.

Q. *How can we collaborate with PRC, our Learning Exchange, and other previously established partnerships, such as EnLiST?*

A. Many districts are involved with an array of initiatives and school improvement activities that have some potential connections to this program of study activity, including *High Schools That Work*, Entrepreneurial Leadership in STEM Teaching and Learning (EnLiST), Project Lead The Way (PLTW), Facilitating Coordination in Agricultural Education (FCAE), and Rising Star. The program of study requirement does not mandate that school districts adhere to a specific model as you develop your programs of study, so you should not view this experience as a competing element that is unrelated to other activities. Instead, you are encouraged to align your school improvement process so that program of study development is incorporated into these activities. For example, as your school is developing its school improvement plans and activities, you may incorporate data related to your programs of study into your conversations related to your identified school improvement goals.